In [1]:
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import numpy as np
import cv2
```

In [2]:
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webcam = cv2.VideoCapture(0)
```

In [ ]:
```
while(1):


    _, imageFrame = webcam.read()


    hsvFrame = cv2.cvtColor(imageFrame, cv2.COLOR_BGR2HSV)


    red_lower = np.array([136, 87, 111], np.uint8)
    red_upper = np.array([180, 255, 255], np.uint8)
    red_mask = cv2.inRange(hsvFrame, red_lower, red_upper)


    green_lower = np.array([25, 52, 72], np.uint8)
    green_upper = np.array([102, 255, 255], np.uint8)
    green_mask = cv2.inRange(hsvFrame, green_lower, green_upper)


    blue_lower = np.array([94, 80, 2], np.uint8)
    blue_upper = np.array([120, 255, 255], np.uint8)
    blue_mask = cv2.inRange(hsvFrame, blue_lower, blue_upper)


    kernel = np.ones((5, 5), "uint8")


    red_mask = cv2.dilate(red_mask, kernel)
    res_red = cv2.bitwise_and(imageFrame, imageFrame,
                              mask = red_mask)


    green_mask = cv2.dilate(green_mask, kernel)
    res_green = cv2.bitwise_and(imageFrame, imageFrame,
                                mask = green_mask)


    blue_mask = cv2.dilate(blue_mask, kernel)
    res_blue = cv2.bitwise_and(imageFrame, imageFrame,
                               mask = blue_mask)


    contours, hierarchy = cv2.findContours(red_mask,
                                           cv2.RETR_TREE,
                                           cv2.CHAIN_APPROX_SIMPLE)

    for pic, contour in enumerate(contours):
        area = cv2.contourArea(contour)
        if(area > 300):
            x, y, w, h = cv2.boundingRect(contour)
            imageFrame = cv2.rectangle(imageFrame, (x, y),
                                       (x + w, y + h),
                                       (0, 0, 255), 2)

            cv2.putText(imageFrame, "Red Colour", (x, y),
                        cv2.FONT_HERSHEY_SIMPLEX, 1.0,
                        (0, 0, 255))


    contours, hierarchy = cv2.findContours(green_mask,
                                           cv2.RETR_TREE,
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                                       (x + w, y + h),
                                       (0, 255, 0), 2)

            cv2.putText(imageFrame, "Green Colour", (x, y),
                        cv2.FONT_HERSHEY_SIMPLEX,
                        1.0, (0, 255, 0))


    contours, hierarchy = cv2.findContours(blue_mask,
                                           cv2.RETR_TREE,
                                           cv2.CHAIN_APPROX_SIMPLE)
    for pic, contour in enumerate(contours):
        area = cv2.contourArea(contour)
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        if(area > 300):
            x, y, w, h = cv2.boundingRect(contour)
            imageFrame = cv2.rectangle(imageFrame, (x, y),
                                       (x + w, y + h),
                                       (255, 0, 0), 2)

            cv2.putText(imageFrame, "Blue Colour", (x, y),
                        cv2.FONT_HERSHEY_SIMPLEX,
                        1.0, (255, 0, 0))


    cv2.imshow("Multiple Color Detection in Real-TIme", imageFrame)
    if cv2.waitKey(10) & 0xFF == ord('q'):
        cap.release()
        cv2.destroyAllWindows()
        break
```

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